

Amendments to the Specification:

Please replace the paragraph beginning at page 5, line 32 with the following paragraph:

Figure 3 is a block diagram illustrating the fiber optic transmitter 200 according to an embodiment of the current invention. Detail of the transmitter 200 is illustrated in Figure 3. The trellis decoder ~~323~~ 303 accepts a group of R bits from the a data source 202 (not shown). The ~~trellis encoder~~ convolutional coder 305 is a rate $M/(M+1)$ convolutional coder of M bits out of the R bits which are input to the rate $m/(MH)$ encoder 303. R-M bits will be unencoded and M bits will be encoded. The output of the convolutional coder 305 comprises (M+1) bits. The R-M unencoded bits and the M+1 coded bits, which are output from the convolutional coder 305, are provided to a subset mapper 307. The subset mapper 307 maps the received bits into a series of multilevel symbols 309, for example, PAM 5. The combination of convolutional coder 305 and the R-M unencoded bits comprises a trellis encoder ~~323~~ 303. The pulse amplitude modulated signals A_1 through A_N have 5 levels, but may have any number of amplitude levels, depending on the pulse amplitude modulation scheme chosen.

Please replace the paragraph beginning at page 10, line 18 with the following paragraph:

Figure 5 is a block diagram of a receiver, according to an embodiment of the invention, illustrating the decoding of multiple signals transmitted across the same channel. In Figure 5, a photo detector 501 accepts a pulse amplitude modulated signal from the fiber optic channel ~~409~~ 213. The photo detector 501 then provides a voltage signal, representative of the signal received from the fiber optic channel ~~409~~ 213, to a preamplifier 503. The pre-amplifier 503 amplifies the signal provided by the photo detector 501 to a suitable level. Pre-amplifier 503 then provides the amplified signal to a high pass filter 505.

Please replace the paragraph beginning at page 10, line 26 with the following paragraph:

High pass filter 505 functions to prevent a phenomenon known as baseline wander. High pass filtering the input signal blocks low frequencies thus minimizing low frequency excursions. Photo detector 501, pre-amplifier 503 and high pass filter 505 generally define the ~~optical receiver 111~~ optical-to-electrical converter 215. The boundaries, however, between the ~~optical receiver~~ optical-to-electrical converter and decoder are somewhat arbitrary and other sources

Serial No. 09/765,014
Amendment dated March 29, 2005
Reply to Office action of September 29, 2004

may define the boundary line between these blocks differently.